

We claim:

Suba 7
5 1. An implant for relieving pain associated with the spinal column, which implant is positionable between spinous processes of the spinal column, the implant comprising:

a first wing with a central body extending therefrom, said central body having a longitudinal axis; and

10 a sleeve positioned over said central body with said sleeve being able to rotate about said longitudinal axis of said central body so as to be positionable relative to said central body in order to aid in positioning said implant between spinous processes.

15 2. The implant of claim 1 wherein:
said sleeve has an elliptical cross-section.

3. The implant of claim 1 wherein:
said sleeve has an elliptical cross-section in a plain which is substantially perpendicular to the longitudinal axis.

20 Sub a2 4. The implant of claim 1 including:
a second wing;
said central body having an end located distally from said first wing;
a first sleeve guide extending from said first wing;
25 a first groove provided in said sleeve, such that with the sleeve received over said central body said first groove receives said first sleeve guide from said first wing so that said sleeve can rotate about said central body guided by said first sleeve guide.

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4 5. The implant of claim 4 wherein said first guide include first and second pins extending from said first wing respectively.

5 6. The implant of claim 4 wherein said first grooves are curved.

6 7. The implant of claim 1 wherein said sleeve has a circular cross-section.

10 8. The implant of claim 1 wherein said sleeve has a cylindrical cross-section.

8 9. The implant of claim 1 wherein said sleeve is cylindrical in shape.

15 9 10. The implant of claim 1 wherein said sleeve is spaced from said central body.

20 11. The implant of claim 1 wherein said sleeve is oval in cross-section.

10 12. The implant of claim 1 wherein said sleeve is comprised of a super-elastic material.

25 11 13. The implant of claim 1 wherein said sleeve is comprised of a material that is repeatably deflectable toward said central body.

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14. The implant of claim 1 wherein said sleeve is spaced from said central body in order to allow for the deflection of said sleeve toward said central body.

5 Sub 15. An implant for relieving pain associated with the spinal column, which implant is positionable between spinous processes of the spinal column, the implant comprising:

means for positioning and retaining said implant relative to spinous processes; and

10 means for adjusting said implant to the anatomical shape of the spinous processes.

5 Sub 16. The implant of claim 15 wherein said adjusting means includes a member which is positionable relative to said positioning and retaining means.

15 Sub 17. The implant of claim 15 wherein said adjusting means includes a member which is positionable relative to said positioning and retaining means; and

20 which member has a shape which has a preferred orientation with respect to the spinous process.

25 18. An implant for relieving pain associated with the spinal column, which implant is positionable between spinous processes of the spinal column, the implant comprising:

a first member that retains the implant relative to the spinous processes; and

a second member that is movable relative to said first member such that the second member can be repositioned relative to the first

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member as the implant is inserted relative to the spinous processes in order for the implant to adjust to the anatomical shape of the spinous processes.

5 13/ 19. The implant of claim 1 wherein said sleeve is comprised of an alloy of nickel and titanium.

10 14/ 20. The implant of claim 1 wherein:
said sleeve can rotate as the implant is inserted between spinous processes from a posterior position to an anterior position closer to vertebral bodies of the spinal column.

15 21. The implant of claim 15 wherein:
said member can move relative to the positioning and retaining means as the implant is inserted between spinous processes from a posterior position to an anterior position closer to vertebral bodies of the spinal column.

20 22. The implant of claim 18 wherein:
said second member can move relative to the first member as the implant is inserted between spinous processes from a posterior position to an anterior position closer to vertebral bodies of the spinal column.

25 23. The implant of claim 1 wherein said sleeve is formed from flat stock.

24. The implant of claim 1 wherein said sleeve is formed from flat stock of a super-elastic material.

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25. The implant of claim 1 wherein said sleeve is formed from flat stock of an alloy of nickel and titanium.

5 26. The implant of claim 15 wherein said adjusting means is formed from flat stock.

27. The implant of claim 18 wherein said second member is formed from flat stock.

10 28. The implant of claim 1 wherein:
said sleeve includes a central member which is rotatable about said central body, and an outer member which is formed of flat stock and which engages said central member.

15 29. The implant of claim 28 wherein:
said outer member of said sleeve is comprised of a super-elastic material.

20 30. The implant of claim 28 wherein:
said outer member is comprised of a first outer member and a second outer member, each of which is formed of flat stock and each of which engages said central member.

25 *Sub a8* 31. An implant for relieving pain associated with the spinal column, which implant is positionable between adjacent spinous processes of the spinal column, the implant comprising:

a first unit including a central body, a guide and a first wing, said first wing located at a first end of said body and said guide extending from a second end of said body located distally from said first wing;

said central body having a longitudinal axis;
a sleeve provided over said central body, said sleeve at least partially spaced from said central body and rotatable about said central body;

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a second wing; and

a device that secures the second wing to the first unit.

24/ 32. The implant of claim 31 wherein:

said sleeve is cylindrical and is oval in cross-sectional shape.

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25/ 33. The implant of claim 31 wherein:

said sleeve is cylindrical and has a cross-section with a major dimension and a minor dimension.

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26/ 34. The implant of claim 31 wherein:

said sleeve is comprised of a super-elastic material.

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29/ 35. The implant of claim 31 wherein:

said sleeve is comprised of a super-elastic alloy of nickel and titanium.

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28/ 36. The implant of claim 31 wherein:

said guide is pointed in order to allow the central body to be urged between two spinous processes without alteration to the spinous processes.

Sub a 9 37. An implant for relieving pain associated with the spinal column, which implant is positionable between adjacent spinous processes of the spinal column, the implant comprising:

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5 a first unit including a central body, a guide located at a first end of the body and a stop located at a second end of the body;
said central body having a longitudinal axis;
a sleeve provided over said central body, said sleeve at least partially spaced from said central body and rotatable about said central body; and
said sleeve held in place between said guide and said stop.

10 38. The implant of claim 37 wherein:
said sleeve has a cross-section with a major dimension and a minor dimension.

15 39. The implant of claim 37 wherein:
said sleeve is comprised of a super-elastic material.

20 40. An implant system for relieving pain associated with the spinal column, which implant is positionable between adjacent spinous processes of the spinal column, the implant system comprising:
a sleeve which in cross-section has at least one major axis and at least one minor axis;
an insertion tool including an insertion guide, a central body, a stop and a handle, wherein said guide and said stop extend from opposite sides of said central body and said handle extends from said stop; and
25 wherein said sleeve fits over said guide and against said stop preparatory to being positioned between two adjacent vertebrae with the insertion tool.

41. An implant for relieving pain associated with the spinal column, which implant is positionable between adjacent spinous processes of the spinal column, the implant comprising:

5 a first unit including a central body, a guide and a first wing, said first wing located at a first end of said body and said guide extending from a second end of said body located distally from said first wing;

10 a sleeve positioned over said central body, said sleeve at last partially spaced from said central body in order to allow for the deflection of said sleeve toward said central body;

a second wing;

a device that secures the second wing to the first unit; and

said sleeve is comprised of a super-elastic material and is formed from flat stock.

15 42. The implant of claim 41 wherein:

said sleeve is cylindrical and is oval in cross-sectional shape.

43. The implant of claim 41 wherein:

20 said sleeve is cylindrical and has a cross-section with a major dimension and a minor dimension.

Sub a10
25 44. An implant for relieving pain associated with the spinal column, which implant is positionable between spinous processes of the spinal column, the implant comprising:

a first wing; and

a sleeve mounted relative to the first wing with said sleeve being positionable relative to the first wing so as to aid in positioning the sleeve between spinous processes.

45. The implant of claim 41 wherein:
said sleeve is comprised of a super-elastic alloy of nickel and
titanium.

5 46. The implant of claim 1 wherein:
said sleeve is formed of a first sleeve portion and a second sleeve
portion, each of which are operably coupled to said central body.

10 Add art 7